

EMS Alumi-Brite

ACID-FREE ALUMINIUM CLEANER AND BRIGHTENER

- 100% Acid-Free
- Non-D.O.T. Regulated
- Non-Fuming
- Non-Corrosive
- Brightens Aluminum
- Safe on Chrome
- No Neutralizing Step
- Safe on Glass
- Safe on Paint
- Safe on Skin

EMS Alumi-Brite is the world's only aluminum brightener and cleaner that is formulated without hydrofluoric or any other corrosive acid or caustic. Alumi-Brite blends our OSHA & EPA approved surfactants and detergents with EMS' SynTech[®], the world's only synthetic acid.

The result is a product that has near identical brightening properties to the harshest acids, yet is safe to the touch, the truck and equipment. Alumi-Brite does not etch the surface of the metal to "brighten," a process that eventually leaves your aluminum dull and grey. Rather, it removed contaminants from the pores of the metal, allowing the natural brightening properties of the metal to shine through.

And because Alumi-Brite is 100% non-corrosive, it is safe to use anywhere on your truck and cab. This also means that Alumi-Brite does not release trace metals like traditional acids during the washing process.

Alumi-Brite carries a triple-zero HMIS score, is non-D.O.T. regulated, and has earned a USDA Authorized Category Code of A3 deeming it safe for use in and around food processing plants and equipment. It is 100% biodegradable, water soluble, non-toxic, non-butyl and non-flammable.

Its performance have earned Alumi-Brite the recommendation of trucking giants like Volvo and Mack, and has been deemed safe by Boeing for use on aircraft.

Alumi-Brite is 100% acid free, so no neutralizing step is required. Simply dilute, spray on, allow to stand for three minutes and rinse.



Technical Data

NITRATE LEVEL: **0% - None**
FORM: **Liquid**
ODOR: **Mild Soapy Odor**
COLD STABILITY: **18° F**
DETERGENCY: **Excellent**
TOXICITY: **Non Toxic**
WETTING ABILITY: **Excellent**
STORAGE STABILITY: **3 Years**

SHIPPER REGULATIONS: **None**
FLASH POINT: **None**
BOILING POINT: **212° F**
SOLUBILITY IN WATER: **100%**
CARCINOGENS: **None**
VOLATILE BY VOLUME: **N/A**
BIODEGRADABLE: **Yes/100%**
VISCOSITY: **Thin**

Dissolving Properties

Aluminum Brightening Properties of Acids with 3 Minute Exposure

Acid	Brightening Score
HF (hydrofluoric)	92.5
Alumi-Brite	90.1
HCl (Muriatic)	86.3
Sulfamic	73.0
Formic	71.1
Phosphoric	70.9
Citric	0.0
Lactic	0.2
Acetic	0.1
Glycolic	0.2
Gluconic	0.1
Rydlyme	0.3
Oxalic	0.0
Malic	0.4

Test Conditions

200 grams of 5% active solution
5 sq. inches of 7075-Y6 corroded aluminum saturated in a test solution for 3 Minutes @ 70° F

Clearly, Alumi-Brite out performs other acids when it comes to brightening aluminum, except HF (hydrofluoric) which is highly corrosive and extremely harmful to humans.

Metal Studies

Dept. of Transportation (D.O.T.) Test Protocols as per Section 173.154 Exceptions for Class 8 (corrosive materials): The material being tested must be proven to be non-destructive or not to cause irreversible alterations in human skin tissue. Testing was conducted on an albino rabbit.

Conclusion: Alumi-Brite was proven to be NON-DESTRUCTIVE on human skin tissue.

Metal Test Limits: D.O.T. Classifies a material to be CORROSIVE if it has a corrosion rate that exceeds 6.25 mmpy on SAE C1020 carbon steel or 7075-Y6 Aluminum.

Results of Alumi-Brite: SAE 1020 carbon steel = 0.24 mmpy
7075-Y6 aluminum = 0.87 mmpy

Conclusion: Alumi-Brite is NON-CORROSIVE

Dilution Specifications

New, reconditioned or well kept tankers, trailers, and equipment:
Dilute 10:1

Moderately soiled and pitted tankers, trailers, and equipment:
Dilute 5:1

Heavily soiled and pitted tankers, trailers, and equipment trucks:
Dilute 3:1

Severely soiled and pitted tankers, trailers, and equipment trucks:
Use Undiluted

Spray or brush on, distribute evenly on surface. Allow to remain on surface for 2-3 minutes. Rinse well.

Toxicity Studies

Toxicity Limits: Test Procedure OECD 202, 48 hr.
LC 50 = 18 mg/l LD 50 = 147 mg/kg (rat oral)

Mutagenicity Limits: OECD Guidelines Sec. 471 Chemicals
Alumi-Brite was found NOT TO BE MUTAGENIC

Dermal Irritation & Corrosion Test

A modified Draize method was used as described in OECD Guidelines for the Testing of Chemicals Sec. 404 and complies with the requirements of OECD Principles of GLP, Annex revised as of July 1992.

Alumi-Brite received a Primary Irritation Score of .8 +/-0.2 and is classified as a "Non-Skin Irritant"

Biodegradation & Aquatic Safety

Test Procedure: Hach Reactor Digestion method for Waste Water and Sea Water. Hach Reactor Digestion Method is a semi-micro adaptation of the Standard Methods.

Test Results Conclude Alumi-Brite was found to be 100% Biodegradable

COD = **340 mg/L**

BOD = **No Detectable Limits**

Classifications & Approvals

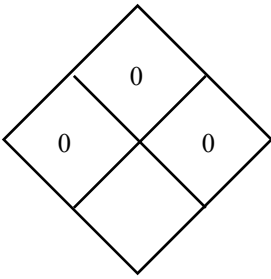
D.O.T., TDG, IMO, IATA, IMDG, SARA 313 311/312, California Prop 65
NON-Regulated

FDA

Approved as Safe (GRAS)
(CGMP) CFR 184.1923

USDA Authorization

A1, A2, A3, A4, A7, A8, C2,
G6 & G7



Material Safety Data Sheet

This MSDS complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200 and OSHA FORM 174. OMB No. 1218-0072

Identity (Trade Name As Used On Label)

SECTION 1 - COMPANY/PRODUCT INFORMATION

Manufacturer's Name: Environmental Manufacturing Solutions, L.L.C.

Address: 7705 Progress Circle

Melbourne, Florida 32904

Phone Number (For Information): 321-837-0050

Emergency Phone Number (Chemtrec) 800-424-9300

IDENTITY: ALUMI-BRITE

CAUSE FOR MSDS: Patent Ingredients

MSDS Number: N/A

Date Prepared: REVISED 05/05/04

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

SECTION 2 - HAZARD INGREDIENTS/IDENTITY INFORMATION

COMPONENTS - Chemical Name & Component Names (Hazardous Components 1% or greater. Carcinogens 1% or greater)	OSHA PEL	ACGIH TLV	OTHER LIMIT RECOMMENDED
NON-HAZARDOUS / NON-REGULATED / NON-NITRATE FORMULA	N/A	N/A	N/A
NONE AS PER 29CFR Part 1910.1200			
See Section—Federal Register Vol. 48 No 228 Nov. 25 1983 Rules & Regulations			

SECTION 3 - PHYSICAL / CHEMICAL CHARACTERISTICS

Boiling Point 212° F	Specified Gravity (H2O = 1) 1.10
Vapor Pressure (mm Hg.) 18	Melting Point N/A
Vapor Density >1	Evaporation Rate (Butyl Acetate = 1) <.01
Solubility In Water 100%	Appearance and Odor Clear, Mild Soapy Odor

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) None	Flammable Limits None	LEL N/A
Extinguisher Media None	Special Fire Fighting Procedures None	UEL N/A
Unusual Fire and Explosion None Known		

SECTION 5 - REACTIVITY DATA

STABILITY: Unstable No	Stable Yes-100%
CONDITIONS TO AVOID: None Known	
Incompatibility (Materials to Avoid) None Known	
Hazardous Decomposition or Byproducts None Known	
HAZARDOUS POLYMERIZATION: May Occur No	Will Not Occur Yes
CONDITIONS TO AVOID: None Known	
N/A	

SECTION 6 - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: Inhalation? No Skin? No Ingestion? Yes

HEALTH HAZARDS (*Acute and Chronic*) If Ingested, May cause loose Stools. Drink Plenty of Water and Consult a Physician. Do not Induce Vomiting.

N/A

N/A

CARCINOGENICITY: NTP? No IARC No OSHA Regulated? No

SIGNS AND SYMPTOMS OF EXPOSURE: None Known, See HEALTH HAZARDS

N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None Known

N/A

EMERGENCY AND FIRST AID PROCEDURES: As with any Chemical, Use Caution and Good Safety Measures when in use. Ingestion: Drink Plenty of Water/2-3 Glasses

and Consult Physician Immediately. Eyes: Flush with Plenty of Water for 15 minutes. Skin: Wash Thoroughly with Soap and Water. Inhalation: Move to fresh air

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled Spilled Material should be washed away promptly with copious amounts of water.

Product Material instantly Neutralizes with water.

N/A

Waste Disposal Method Non Hazardous. No Special Requirements are known to be applicable at this time. Product instantly neutralizes with water.

Always offer Drums and/or Bulk Containers to be returned to your Supplier or for Recycling to your local Recycler.

Precautions to Be Taken in Handling and Storing None Known. As with all Chemical Products and Materials, take care as to where and how you store them.

N/A

Other Precautions None Known

N/A

N/A

SECTION 8 - Control Measures

Respiratory Protection (*Specify Type*) N/A

Ventilation No Special Ventilation is Known to be Needed.

Local Exhaust N/A

Special N/A

Other N/A

Mechanical(*General*) N/A

Protective Gloves N/A

Eye Protection As with any Chemical Product or Material, care should be taken as not to get anything in the Eyes. Safety Glasses or Goggles are suggested for use

Other Protective Clothing or Equipment N/A

N/A

Work/Hygienic Practices N/A

N/A